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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,540	07/22/2003	William S. Kennedy	015290-661	4866

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BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P.O. Box 1404
Alexandria, VA 22313-1404

EXAMINER	
ZERVIGON, RUDY	
ART UNIT	**PAPER NUMBER**
1763	

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/623,540	KENNEDY ET AL.	
	Examiner	Art Unit	
	Rudy Zervigon	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) *22-25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 January 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/5/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1-21 in the reply filed on May 12, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "first member", "second member", "first part", "second part", "first surface", "seconnd surface" must be shown or the features canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-25 of copending Application No. 10/445,146. Although the conflicting claims are not identical, they are not patentably distinct from each other because although the claims of copending Application No. 10/445,146 do not require, for example, "fastener members", it would have been obvious to one of ordinary skill in the art at the time the invention was made to fasten apparartus components in said manner. Motivation to fasten apparartus components in said manner is for imparting structural rigidity and/or for efficient replacement of component parts.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 10-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Independent claim 10 claims elements "first part", "second part", "first surface", and "seconnd surface". Applicant's disclosure is devoid of such a description. The Examiner cannot make an accurate art-based rejection without claims 10-16 being properly supported by Applicant's specification.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 requires "the first member including a plurality of through apertures having a first portion and a second portion wider than the first portion". It is uncertain if either the "first member " or the "plurality of through apertures " has "a first portion and a second portion wider than the first portion ". Clarification is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1, 2, 4, 6, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Barnes; Michael et al. (US 6,818,096 B2). Barnes teaches a component (Figure 1; column 1, line 55 - column 2, line 58) of a plasma (abstract) processing apparatus, comprising: a first member (7; Figure 1; column 2, lines 34-58) bonded to a second member (1,8; Figure 1), the first member (7; Figure 1; column 2, lines 34-58) including a plurality of through apertures (T-shaped hole for 22; Figure 1; column 2, lines 35-58) having a first portion (top portion of through hole for 22; Figure 1; column 2, lines 35-58) and a second portion (bottom portion of through hole for 22; Figure 1; column 2, lines 35-58) wider than the first portion (top portion of through hole for 22; Figure 1; column 2, lines 35-58); and a plurality of first fastener members (members between 7 and 22; Figure 1; column 2, lines 35-58) each mounted in an aperture (T-shaped hole for 22; Figure 1; column 2, lines 35-58) of the first member (7; Figure 1; column 2, lines 34-58), each first fastener member (member between 7 and 22; Figure 1; column 2, lines 35-58) including a bearing surface (lowest surface of widest portion of 22; Figure 1; column 2, lines 35-58) facing a surface that at least partially defines the second portion (bottom portion of through hole for 22; Figure 1; column 2, lines 35-58) of the aperture (T-shaped hole for 22; Figure 1; column 2, lines 35-58), as claimed by claim 1

Barnes further teaches:

i. The component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 1, wherein (i) the first fastener members (members between 7 and 22; Figure 1; column 2, lines 35-58) are T-nuts with internal threads, or (ii) the first fastener members (members between 7

and 22; Figure 1; column 2, lines 35-58) comprise a head (top thickest portion of 22; Figure1) and an externally threaded end portion opposite the head (top thickest portion of 22; Figure1), as claimed by claim 2. It is inherent that Barnes' bolts have "a head and an externally threaded end portion opposite the head".

ii. The component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 1, further comprising: a temperature-controlled (20; Figure 1; column 2, lines 35-58) top plate (7; Figure 1; column 2, lines 35-58) including a plurality of through openings (top portion of T-shaped hole for 22 - not labelled; Figure 1) each aligned with a respective aperture (T-shaped hole for 22; Figure 1; column 2, lines 35-58) in the first member (7; Figure 1; column 2, lines 34-58); and a plurality of second fastener members ("bolts 18"; Figure 1; column 2, lines 35-58) each engaged with a respective first fastener member (member between 7 and 22; Figure 1; column 2, lines 35-58) to secure the first member (7; Figure 1; column 2, lines 34-58) to the top plate (7; Figure 1; column 2, lines 35-58), as claimed by claim 4

iii. The component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 1, wherein each of the first fastener members (members between 7 and 22; Figure 1; column 2, lines 35-58) includes a head (top thickest portion of 22; Figure1) configured to prevent rotation of the first fastener members (members between 7 and 22; Figure 1; column 2, lines 35-58) relative to the first member (7; Figure 1; column 2, lines 34-58), as claimed by claim 6. When the structure recited in the references is substantially identical to that of the claims, claimed properties or functions are presumed to be inherent. Where the claimed and prior art products are identical or substantially identical in structure or composition,

or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA1977).

iv. The component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 4, wherein (i) each of the first fastener members (members between 7 and 22; Figure 1; column 2, lines 35-58) comprises internal threads, and each of the second fastener members ("bolts 18"; Figure 1; column 2, lines 35-58) comprises external threads engaged with the internal threads of a respective first fastener member (member between 7 and 22; Figure 1; column 2, lines 35-58), or (ii) each of the first fastener members (members between 7 and 22; Figure 1; column 2, lines 35-58) comprises external threads, and each of the second fastener members ("bolts 18"; Figure 1; column 2, lines 35-58) comprises internal threads engaged with the external threads of a respective first fastener member (member between 7 and 22; Figure 1; column 2, lines 35-58), as claimed by claim 9. It is inherent that Barnes' "bolts" have "a head and an externally threaded end portion opposite the head". And that Barnes' "bolts" have "first fastener members (members between 7 and 22; Figure 1; column 2, lines 35-58) comprises internal threads, and each of the second fastener members ("bolts 18"; Figure 1; column 2, lines 35-58) comprises external threads engaged with the internal threads of a respective first fastener member (member between 7 and 22; Figure 1; column 2, lines 35-58)".

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 3, 7, 8, and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes; Michael et al. (US 6,818,096 B2) in view of Ishida; Toshimichi et al. (US 5,766,364 A). Barnes is discussed above. Barnes further teaches:

i. A showerhead (Figure 1) electrode (7; Figure 1) assembly for a plasma (abstract) processing apparatus (Figure 1), comprising; an electrode (7; Figure 1) having gas a injection opening (5; Figure 1); a backing member (1; Figure 1) secured to the electrode (7), the backing member (1; Figure 1) including a plurality of through apertures (T-shaped hole for 18; Figure 1; column 2, lines 35-58) each having a first portion (bottom portion of through hole for 18; Figure 1; column 2, lines 35-58) and a second portion (top portion of through hole for 18; Figure 1) wider than the first portion (bottom portion of through hole for 18; Figure 1); a top plate (7; Figure 1; column 2, lines 35-58) including a plurality of through openings (top portion of T-shaped hole for 18 - not labelled; Figure 1) each of which is aligned with a respective aperture (T-shaped hole for 18; Figure 1; column 2, lines 35-58) in the backing member (1; Figure 1); second fastener member (18; Figure 1) to secure the backing member (1; Figure 1) to the top plate (7; Figure 1; column 2, lines 35-58) – claim 17

ii. second fastener members ("bolts 18"; Figure 1; column 2, lines 35-58) comprises external threads engaged with the internal threads of a respective first fastener member (member between 7 and 22; Figure 1; column 2, lines 35-58) – claim 21 It is inherent that Barnes' "bolts" have "a head and an externally threaded end portion opposite the head" and are "second fastener members comprises external threads" – claim 21

Barnes does not teach:

i. The component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 1, wherein the first fastener members (members between 7 and 22; Figure 1; column 2, lines 35-58) each include a head (top thickest portion of 22; Figure1) bonded with an elastomer to the surface, as claimed by claim 3

ii. The component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 1, wherein the first member (7; Figure 1; column 2, lines 34-58) comprises a plate made of graphite, and the second member (1,8; Figure 1) comprises a showerhead (top thickest portion of 22; Figure1) electrode made of silicon, as claimed by claim 7

iii. The component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 1, wherein the second member (1,8; Figure 1) comprises an inner silicon electrode and a segmented outer silicon electrode, and the backing member (1; Figure 1) comprises a graphite backing plate secured to the inner silicon electrode and a graphite backing ring secured to the outer silicon electrode, as claimed by claim 8

iv. a silicon electrode having gas injection openings – claim 17

v. a graphite backing member (1; Figure 1) – claim 17

vi. a plurality of first fastener members, each first fastener member being mounted in a respective aperture (T-shaped hole for 18; Figure 1; column 2, lines 35-58) of the backing member (1; Figure 1), the first fastener member (member between 7 and 22; Figure 1; column 2, lines 35-58) including a bearing surface (lowest surface of widest portion of 22; Figure 1; column 2, lines 35-58) facing a surface at least partially defining the second portion (top portion of through hole for 18; Figure 1) of the apertures (T-shaped hole for 18; Figure 1; column 2, lines 35-58) – claim 17

vii. The showerhead electrode assembly of Claim 17, wherein the first fastener members each comprise a head adhesively bonded to the bearing surface of the aperture, and/or the first fastener members are T-nuts – claim 18

viii. The showerhead electrode assembly of Claim 17, wherein the second portion of each aperture is configured to prevent rotation of the first fastener member relative to the backing member – claim 19

ix. The showerhead electrode assembly of Claim 17, wherein the silicon electrode comprises an inner member and a segmented outer member, and the backing member comprises a backing plate secured to the inner member and a backing ring secured to the outer member – claim 20

x. The showerhead electrode assembly of Claim 17, wherein (i) each of the first fastener members comprises internal threads, or (ii) each of the first fastener members comprises external threads - claim 21

Ishida teaches a similarly constructed plasma apparatus (Figure 1) and electrode (106; Figure 1, 3-5) including a plurality of first fastener members (109; Figures 3-4). Ishida's first fastener

members (109; Figures 3-4) each include a head (top thickest portion of 109; Figure1) bonded with an elastomer (31a – "O-rings"; Figure 3; column 4, lines 23-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add Ishida's first fastener members (109; Figures 3-4) to Barnes' second fastener members ("bolts 18"; Figure 1; column 2, lines 35-58) and construct Barnes' a electrode of silicon, having plural gas injection openings, and construct Barnes' backing member (1; Figure 1) of graphite.

Motivation to add Ishida's first fastener members (109; Figures 3-4) to Barnes' second fastener members ("bolts 18"; Figure 1; column 2, lines 35-58) is for transferring heat among Ishida's component parts to avoid deformation as taught by Ishida (column 2; lines 39-46), and motivation to construct Barnes' a electrode of silicon, having plural gas injection openings, and construct Barnes' backing member (1; Figure 1) of graphite is for using plasma compliant materials as taught by Barnes (column 1; lines 9-21). Further, it is well established that the duplication of parts is obvious (In re Harza , 274 F.2d 669, 124 USPQ 378 (CCPA 1960) MPEP 2144.04). Further, it has been held that it is obvious to make whole elements seperable (In re Dulberg, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961) – MPEP 2144.04.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 20040074609 A1

US 20020108711 A1

US 6827815 B2

US 6468925 B2

US 6461435 B1

US 6302964 B1

US 6192827 B1

US 6187152 B1

US 5906683 A

US 5647911 A

US 5628829 A

US 5569356 A

US 5567243 A

US 5534751 A

US 5449410 A

US 5423936 A

US 4612077 A

US 4585920 A

US 4270999 A

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (571) 272.1442. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official fax phone number for the 1763 art unit is (703) 872-9306. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (571) 272-1700. If the

examiner can not be reached please contact the examiner's supervisor, Parviz Hassanzadeh, at (571) 272-1435.